

REMARKS

Claims 1, 9, 12, 15, 18, 21 and 24 currently remain in the application. Claims 2-8, 10, 11, 13, 14, 16, 17, 19, 20, 22, 23, 25 and 26 have been canceled and claim 1 is herein amended.

Claims 1, 5, 9, 10, 12, 13, 15, 16, 18, 19, 21, 22, 24 and 25 were rejected under 35 U.S.C. 103 over Tsen in view of Meyer and Goto. At least in part in view of these cited references and the Examiner's reasons for the rejection, independent claim 1 is herein amended so as to now incorporate the limitations cited in claim 5 and claims 5, 10, 13, 16, 22 and 25 are canceled. The limitations now being incorporated into independent claim 1 relate to the boiling process, explaining how pressure should be applied in the boiling process.

As explained in the specification, the present invention relates to a method of producing sterilized packed pasta while preventing specks from appearing thereon. As pasta and boiling water are placed inside a container such as a retort in an attempt to boil the pasta, specks may appear on the pasta because pasta is light and some parts of it remain above the surface of the boiling water. The invention in claim 1 of this application is addressed to this problem. According to the method of this invention, the boiling process is carried out by repeating the step of increasing the pressure and that of releasing it under the condition of evaporating the boiling water. As the boiling water evaporates inside the retort due to the pressure discharge, the foaming part due to the evaporation comes to cover the portion of the pasta floating above the water level (as shown in Fig. 2) such that even the floating portion of the pasta can be boiled. The conditions related to the Fo value, the cycle number, the temperature inside the retort and the pressure inside the retort, which are mentioned in claim 1, are conditions necessary for boiling the pasta without generating specks.

Tsen discloses a method of producing retorted pastas, describing, as pointed out by the Examiner, a method of heating canned pastas for 10 minutes under the conditions of 110°C and 10psi (or about 0.68atm). Since the internal pressure of a retort cannot possibly be reduced to less than one atmosphere for sterilization by heating, the meaning of the description must be that the pressure is increased by 10psi, or that it is a gauge pressure. If 10psi were taken as indicating the absolute pressure and if a can were heated to 110°C under a condition of reduced pressure of

0.68atm, the can would explode. As also described "Dictionary of Canned and Retorted Foods" (by Japan Canning Society, published by Asakura Shoten) and "New Food Industry", Vol. 18, No. 5 (1976) (published by Food Materials Research Group), copies of relevant portions of which are being submitted herewith as References A and B, respectively, the common practice is to apply an overpressure in excess of saturated steam pressure for sterilization by $0.2\text{-}1.0\text{kg/cm}^2$ (or about 2.8 - 14.7psi) when a product inside a container is sterilized in a retort by adding heat and pressure. This is such that the pressure outside the container (or the pressure inside the retort) would be higher than that inside the container by $0.2 - 1.0 \text{ kg/cm}^2$ and that the container would not explode or be deformed. If the pressure mentioned by Tsen is converted into absolute pressure, it becomes 1.68atm (or about 1277mmHg or about 0.17MPa). Since the saturated steam pressure at 110°C is about 1076mmHg, this means that the external pressure (1277mmHg) is made somewhat greater than the internal pressure of 1076mm, or that Tsen is merely practicing what References A and B are teaching. Under such a condition, it goes without saying that there is no boiling inside canned pastas.

Meyer relates to ultra high pressure food preservation processes and describes the method of repeating the steps of applying ultra high pressure, reducing this pressure and again applying ultra high pressure on the food product. The purpose of Meyer is to destroy microorganisms and enzymes by applying ultra high pressure of at least 50000psi (or about 3400atm or about 344MPa). If any air is present under such a high pressure condition, there is a high probability of the danger of explosion and hence such an operation is typically carried out under a condition where air is absent. It is with this understanding that Meyer discloses the processes of sealing a sample inside a plastic bag (column 7, lines 40-43) and filling a pressure-resistant container with a special water/glycerol solution for removing air from the container as these plastic bags are thrown in (column 8, lines 2-5) such that there will be no explosion caused by any air that may remain. In short, Meyer's process is intended to be carried out only in the absence of air and this is under a condition where evaporation cannot possible take place because if there were evaporation under such an ultra high pressure condition, control would become impossible and there would be a high possibility of the danger of explosion. In other words, it would be too dangerous to carry out any process involving evaporation under such a high pressure condition.

Goto relates to a method of preparing pasta sauce in a container and describes the step of sterilizing the product with pressure before, simultaneously as or after the pasta sauce is sealed in a container. Applicant does not deny such a process was not known.

Comparison Example 1 in Table 2 of the specification shows a situation where pasta is simply heated under a pressured condition inside a retort for sterilization as taught by Tsen and Goto. By such a process, specks do appear on the pasta and only products with a low score by a sensory test can be obtained.

In summary, it is believed that the invention according to currently amended claim 1 is not obvious in view of the cited references even if they are considered in combination.

Applicant believes that no extension of time is required; however, if it is determined that such an extension is required, Applicant hereby petitions that such an extension be granted and authorize the Commissioner to charge the required fees for an extension of time to Deposit Account No. 504480 (Order No. KGMEP015).

Please charge any additional fees required to facilitate filing the enclosed response to Deposit Account No. 504480 (Order No. KGMEP015).

Respectfully submitted,

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